



SEQUENCE LISTING

<110> Falco, S. Carl
Famodu, Omolayo O.
Klein, Ted
Orozco, Emil M. Jr.
Rafalski, J. Antoni
Shen, Jennie
Cahoon, Edgar B.
Sakai, Hajime

<120> Plant Proteinases

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<213> Zea mays

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<222> (297)

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tctagtcgat ctcacaggag gagctgggtga agagattgat atgcgaagtc ctcaagccca 180
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<213> Zea mays

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1 5 10 15
Lys Ala Tyr Ala Lys Leu His Gly Ser Tyr Glu Ala Leu Glu Gly Gly
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Leu Val Gln Asp Ala Leu Val Asp Leu Thr Gly Gly Ala Gly Glu Glu
35 40 45
Ile Asp Met Arg Ser Pro Gln Ala Gln Leu
50 55

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<212> DNA
<213> Oryza sativa

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tgctctantg gatctcacag gaggagctgg tgaagagatt gacatgcgga gcccccaagc 180
gcagattgat cttgctantg gaangattgt ggtctcagtt gttgcatttt aaacaagagg 240
gctttcttcn tggggctggg aantccttcc ggccccgatg ctcaatattt cancaagtgg 300
cattgttcaa nggacatgnc cttactcnaa ttttgcaagg taaagnagaa agtttgaatg 360
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tnt 423

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<210> 4
<211> 47
<212> PRT
<213> Oryza sativa

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<223> Xaa = any amino acid

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Leu His Gly Ser Tyr Glu Ala Leu Glu Gly Gly Leu Val Gln Asp Ala
      20             25             30

Leu Xaa Asp Leu Thr Gly Gly Ala Gly Glu Glu Ile Asp Met Arg
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<213> Glycine max

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gatcttacag ggggtgctgg ggaggaaatt gacatgagga gtggtgaagc ccagattgac 180
cttgcaagtg gtagattgtg gtctcaactg ttgcgcttca agcaagaagg ttttctccta 240
ggtgcaggaa gtccatcagg ttcagatgtg cacatctctt ctagtggcat tgtgcaagga 300
catgcatact caatactgca ggtaagagac gtggatgggc ataaacttgt tcagatccga 360
aatccatggg ccaatgaagt ggagtggagt ggtccctggc ctgactcgtc gcctgagtgg 420
acagatagga taaagcacia gctgaagcat gtacacagtc aaaagatggc atattctgga 480
tgtcctggca agattttcag attcatttcg ataatatata tttccgttat ctaccatcag 540
agatcgtcat tcngttcatg gncaatggcg ttgttacagt gccngggg 588

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 <212> PRT
 <213> Glycine max

<400> 6
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 Ser Tyr Glu Ala Leu Glu Gly Gly Leu Val Gln Asp Ala Leu Val Asp
 20 25 30
 Leu Thr Gly Gly Ala Gly Glu Glu Ile Asp Met Arg Ser Gly Glu Ala
 35 40 45
 Gln Ile
 50

<210> 7
 <211> 1592
 <212> DNA
 <213> Zea mays

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 acatcagatt ccgattacat acagggcaaa ccaatgggaa cagctatggc cgactactcc 120
 acgctcaaatt cagcaaaaact gcagcttgcc aacaagacat ttcacagctg cataagagcc 180
 ctatgcgtta acaggaacga caggctacct aacctaaact tatagcattt acagggtaaa 240
 cgggacacct atacatagga tgggctacca ggctcagttac cacggctatc tacaacatt 300
 gaaccaagcc tctcaccctg cactttgctg agctaccaa gaaccatgga tcatgccttc 360
 tctcctttcc cttcagcaca agaagcattg ccgtttgta gatctgcaac aagcaaccga 420
 acttaggtac ttgcatgcag caagattgat tgaagttgtc caggaggcaa ttcctatacc 480
 cattatctag ttcccagagaa cccacagctg gatcctgcgt gcacgggtgc ccagcagacg 540
 cagctaccat caaacacatg ggatctcaat cttgaactaa acagcctcta gtctgattga 600
 tgcttttgaa aaaactgaca aaacaaaagg tgcttccctc ccagggtgga tggtagttgg 660
 cacaattgtg taccctttgg gataaggatc caagaccagt tcgcatgata tctccctcga 720
 gttaacgtaa tctgttccac cagcgctttc atgcatgtag atattgtaag cagcacggca 780
 gccctgtgtc ttgagtatcc tcattccaat gtaaaacatt gaagaatcat ggctagattg 840
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 gtgccacgag tcataatctt ggcaaccacc tgcattgtag ccacgccatt gcccatggac 1020
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 aaaatcttgc caagacatcc agaatacccc attcttcgac tgtggaacat gcatgagctt 1140
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 ttcatttgcc catggatttc tgatttggat gagtttgtgg ccatcaactt ctcttacctg 1260
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 agaaggactt ccagcaccaa gaagaaaacc ttcttgtttg aaatgcaaca actgcgacca 1380
 caatcttcca ctagcaagat caagttgggc ttgaggactt cgcataatcaa tctcttcacc 1440
 agctcctcct gtgagatcga ctagagcatc ttgaacaagc ccaccttcca atgcctcata 1500
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<210> 8
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 <212> PRT
 <213> Zea mays

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 Ala Leu Glu Gly Gly Leu Val Gln Asp Ala Leu Val Asp Leu Thr Gly
 35 40 45
 Gly Ala Gly Glu Glu Ile Asp Met Arg Ser Pro Gln Ala Gln Leu Asp
 50 55 60
 Leu Ala Ser Gly Arg Leu Trp Ser Gln Leu Leu His Phe Lys Gln Glu
 65 70 75 80
 Gly Phe Leu Leu Gly Ala Gly Ser Pro Ser Gly Ser Asp Ala His Ile
 85 90 95
 Ser Ser Ser Gly Ile Val Gln Gly His Ala Tyr Ser Ile Leu Gln Val
 100 105 110
 Arg Glu Val Asp Gly His Lys Leu Ile Gln Ile Arg Asn Pro Trp Ala
 115 120 125
 Asn Glu Val Glu Trp Asn Gly Pro Trp Ser Asp Ser Ser Pro Glu Trp
 130 135 140
 Thr Glu Arg Met Lys His Lys Leu Met His Val Pro Gln Ser Lys Asn
 145 150 155 160
 Gly Val Phe Trp Met Ser Trp Gln Asp Phe Gln Ile His Phe Arg Ser
 165 170 175
 Ile Tyr Val Cys Arg Val Tyr Pro Pro Glu Met Arg Tyr Ser Val His
 180 185 190
 Gly Gln Trp Arg Gly Tyr Asn Ala Gly Gly Cys Gln Asp Tyr Asp Ser
 195 200 205
 Trp His Gln Asn Pro Gln Tyr Arg Leu Arg Val Thr Gly Arg Asp Ala
 210 215 220
 Leu Tyr Pro Val His Val Phe Ile Thr Leu Thr Gln Gly Val Gly Phe
 225 230 235 240
 Ser Arg Lys Thr Asn Gly Phe Arg Asn Tyr Gln Ser Ser His Asp Ser
 245 250 255
 Ser Met Phe Tyr Ile Gly Met Arg Ile Leu Lys Thr Gln Gly Cys Arg
 260 265 270
 Ala Ala Tyr Asn Ile Tyr Met His Glu Ser Ala Gly Gly Thr Asp Tyr
 275 280 285
 Val Asn Ser Arg Glu Ile Ser Cys Glu Leu Val Leu Asp Pro Tyr Pro
 290 295 300
 Lys Gly Tyr Thr Ile Val Pro Thr Thr Ile His Pro Gly Glu Glu Ala
 305 310 315 320
 Pro Phe Val Leu Ser Val Phe Ser Lys Ala Ser Ile Arg Leu Glu Ala
 325 330 335
 Val

<210> 9
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 <212> DNA
 <213> Oryza sativa

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 tgtgcagctg ggaaatacca ttttagcatg ctgcagtttt gctgatcaag gcgagcagtc 1560
 gtgggccata gcgttttcat tgattgcctg tatgtaatcg aaatctgatc tcattcaatg 1620
 gaagctatatt tttggtaccc tttgaagcaa aaaaaaaaaa aaaaaaaaaa 1670

<210> 10
 <211> 338
 <212> PRT
 <213> Oryza sativa

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 20 25 30
 Glu Ala Leu Glu Gly Gly Leu Val Gln Asp Ala Leu Val Asp Leu Thr
 35 40 45
 Gly Gly Ala Gly Glu Glu Ile Asp Met Arg Ser Pro Gln Ala Gln Ile
 50 55 60
 Asp Leu Ala Ser Gly Arg Leu Trp Ser Gln Leu Leu His Phe Lys Gln
 65 70 75 80
 Glu Gly Phe Leu Leu Gly Ala Gly Ser Pro Ser Gly Ser Asp Ala His
 85 90 95
 Ile Ser Ser Ser Gly Ile Val Gln Gly His Ala Tyr Ser Ile Leu Gln
 100 105 110

Val Arg Glu Val Asp Gly His Lys Leu Val Gln Ile Arg Asn Pro Trp
 115 120 125
 Ala Asn Glu Val Glu Trp Asn Gly Pro Trp Ser Asp Ser Ser Gln Glu
 130 135 140
 Trp Thr Glu Arg Met Lys His Lys Leu Lys His Val Pro Gln Ser Lys
 145 150 155 160
 Asn Gly Val Phe Trp Met Ser Trp Gln Asp Phe Gln Ile His Phe Arg
 165 170 175
 Ser Ile Tyr Val Cys Arg Val Tyr Pro Pro Glu Met Arg Tyr Ser Val
 180 185 190
 His Gly Gln Trp Arg Gly Tyr Ser Ala Gly Gly Cys Gln Asp Tyr Asp
 195 200 205
 Ser Trp His Gln Asn Pro Gln Tyr Arg Leu Arg Val Thr Gly Arg Asp
 210 215 220
 Ala Leu Tyr Pro Val His Val Phe Ile Thr Leu Thr Gln Gly Val Gly
 225 230 235 240
 Phe Ser Arg Lys Thr Asn Gly Phe Arg Asn Tyr Gln Ser Ser His Asp
 245 250 255
 Ser Ser Met Phe Tyr Ile Gly Met Arg Ile Leu Lys Thr Arg Gly Cys
 260 265 270
 Arg Ala Ala Tyr Asn Ile Tyr Met His Glu Ser Val Gly Gly Thr Asp
 275 280 285
 Tyr Val Asn Ser Arg Glu Ile Ser Cys Glu Leu Val Leu Glu Pro Tyr
 290 295 300
 Pro Lys Gly Tyr Thr Ile Val Pro Thr Thr Ile His Pro Gly Glu Glu
 305 310 315 320
 Ala Pro Phe Val Leu Ser Val Phe Thr Lys Ala Pro Ile Lys Leu Glu
 325 330 335

Ala Val

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 <212> DNA
 <213> Glycine max

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 tgagtggaca gataggataa agcacaagct gaagcatggt ccacagtcaa aagatggcat 480
 attctggatg tcctggcaag attttcagat tcattttcga tcaatatata tttgccgtat 540


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ctacccatca gagatgcgtc attctgttca tgggtcaatgg cgtgggttaca gtgccggggg 600
gtgtcaggat tatgatacgt ggaatcaaaa tccacagttc agattgactt caactgggca 660
agatgcatca tttccaattc atgtattcat taccttaact caggggtgtgg gattttcaag 720
aacaacagct ggttttagaa attatcaatc cagccatgat tcacagatgt tttacattgg 780
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tgagggttaag gacgggtgtg ggaggtatag taacaagcat tgagtgactg attgtaaatt 1440
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<210> 12

<211> 335

<212> PRT

<213> Glycine max

<400> 12

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His Glu Ala Phe Ala Thr Ser Lys Lys Gly Tyr Glu Leu Trp Val Ser
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Ile Leu Glu Lys Ala Tyr Ala Lys Leu His Gly Ser Tyr Glu Ala Leu
      20             25             30

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Glu Gly Gly Leu Val Gln Asp Ala Leu Val Asp Leu Thr Gly Gly Ala
    35             40             45

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```

Gly Glu Glu Ile Asp Met Arg Ser Gly Glu Ala Gln Ile Asp Leu Ala
    50             55             60

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```

Ser Gly Arg Leu Trp Ser Gln Leu Leu Arg Phe Lys Gln Glu Gly Phe
    65             70             75             80

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```

Leu Leu Gly Ala Gly Ser Pro Ser Gly Ser Asp Val His Ile Ser Ser
      85             90             95

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```

Ser Gly Ile Val Gln Gly His Ala Tyr Ser Ile Leu Gln Val Arg Asp
    100            105            110

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Val Asp Gly His Lys Leu Val Gln Ile Arg Asn Pro Trp Ala Asn Glu
    115            120            125

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```

Val Glu Trp Asn Gly Pro Trp Ser Asp Ser Ser Pro Glu Trp Thr Asp
    130            135            140

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Arg Ile Lys His Lys Leu Lys His Val Pro Gln Ser Lys Asp Gly Ile
    145            150            155            160

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Phe Trp Met Ser Trp Gln Asp Phe Gln Ile His Phe Arg Ser Ile Tyr
      165            170            175

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Ile Cys Arg Ile Tyr Pro Ser Glu Met Arg His Ser Val His Gly Gln
    180            185            190

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Trp Arg Gly Tyr Ser Ala Gly Gly Cys Gln Asp Tyr Asp Thr Trp Asn
 195 200 205
 Gln Asn Pro Gln Phe Arg Leu Thr Ser Thr Gly Gln Asp Ala Ser Phe
 210 215 220
 Pro Ile His Val Phe Ile Thr Leu Thr Gln Gly Val Gly Phe Ser Arg
 225 230 235 240
 Thr Thr Ala Gly Phe Arg Asn Tyr Gln Ser Ser His Asp Ser Gln Met
 245 250 255
 Phe Tyr Ile Gly Met Arg Ile Leu Lys Thr Arg Gly Arg Arg Ala Ala
 260 265 270
 Phe Asn Ile Tyr Leu His Glu Ser Val Gly Gly Thr Asp Tyr Val Asn
 275 280 285
 Ser Arg Glu Ile Ser Cys Glu Met Val Leu Glu Pro Glu Pro Lys Gly
 290 295 300
 Tyr Thr Ile Val Pro Thr Thr Ile His Pro Gly Glu Glu Ala Pro Phe
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 Val Leu Ser Val Phe Thr Lys Ala Ser Ile Thr Leu Glu Ala Leu
 325 330 335

<210> 13
 <211> 505
 <212> DNA
 <213> Oryza sativa

<220>
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 <222> (120)
 <223> n = a, c, g or t

<220>
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<220>
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 acctcggcct ccgcacgtcg cgccgcgcct tcctgcgggg gctcggcggg tccgcccacn 120
 aggcgccccgt cctccccacc gacggcctcc ccgacgaact cgactggaga gaccacggcg 180

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ccgtcggccc cgtcaagaac cagggatcgt gcgggtcgtg ctggtcgttc agcgcgtcgg 240
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agatggtcga ttgcgaccat gagtgtgatt catcatnaac ctgattcatg tgatgctgga 360
tgcaatgggtg gattgatgac taacgccttc agctatcttt tgaaatccgg tggccttgag 420
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attgttactt cagttcaaaa cttca 505

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<210> 14
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<220>
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<222> (40)
<223> Xaa = any amino acid

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<220>
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<220>
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<400> 14
Ala Glu His Gly Val Thr Lys Phe Ser Asp Leu Thr Pro Ala Glu Phe
  1             5             10             15

Arg Arg Ala Tyr Leu Gly Leu Arg Thr Ser Arg Arg Ala Phe Leu Arg
      20             25             30

Gly Leu Gly Gly Ser Ala His Xaa Ala Pro Val Leu Pro Thr Asp Gly
  35             40             45

Leu Pro Asp Asp Phe Asp Trp Arg Asp His Gly Ala Val Gly Pro Val
  50             55             60

Lys Asn Gln Gly Ser Cys Gly Ser Cys Trp Ser Phe Ser Ala Ser Gly
  65             70             75             80

Ala Leu Glu Gly Ala Asn Tyr Leu Ala Thr Gly Lys Met Xaa Val Leu
      85             90             95

Ser Glu Xaa Gln Met Val Asp Cys Asp His Glu Cys Asp Ser Ser Xaa
      100            105            110

Pro Asp Ser Cys Asp Ala Gly Cys Asn Gly Gly Leu Met Thr Asn Ala
      115            120            125

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Phe Ser Tyr Leu Leu Lys Ser Gly Gly Leu Glu Ser Glu Lys Asp Tyr
 130 135 140

Pro Tyr Thr Gly Arg Asp Gly Thr Cys Lys Phe Asp Lys Ser Xaa Ile
 145 150 155 160

Val Thr Ser Val Gln Asn Phe
 165

<210> 15
 <211> 717
 <212> DNA
 <213> Triticum aestivum

<220>
 <221> unsure
 <222> (342)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (634)
 <223> n = a, c, g or t

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 ttcattgcgat gctggatgca atggtgggtt gatgacttca gccttttagct atctgttgaa 180
 atctggtggc cttgagagag aaaaggatta cccttacacc gggaaggacg gtacctgcaa 240
 atttgagaag tccaagattg ctgcttcagt tcaaaacttc agcgttgctg ctggtgatga 300
 agaacagatt gctgctaacc ttgtgaaata tggaccgctg gncatcggta tcaacgccgc 360
 atacatgcag acatacatcg gcggagtgtc atgcccatac atctgcggca ggcacctga 420
 ccacggtgtc cttctcgtcg gctacggggc gtctggcttc gcgccttccc gcttcaagga 480
 gaagccctac tggatcatca agaactcatg gggcgagaaac tggggggaca agggttacta 540
 caagatctgc aggggctcga acgtgcgcaa caagtgtggc gtcgactcca tggctctccac 600
 ggtgtccgcc actcacgcct ccaaggacga gtangctctg ggtctgatct gatctgatcg 660
 gcggggcctcc tgggtgtcatc ttgggttccg tgtgtgtatc gctagaaaga aacttta 717

<210> 16
 <211> 209
 <212> PRT
 <213> Triticum aestivum

<220>
 <221> UNSURE
 <222> (114)
 <223> Xaa = any amino acid

<400> 16
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 1 5 10 15

Gly Lys Met Glu Val Leu Ser Glu Gln Gln Leu Val Asp Cys Asp His
 20 25 30

Glu Cys Asp Pro Ala Glu Pro Asp Ser Cys Asp Ala Gly Cys Asn Gly
 35 40 45

Gly Leu Met Thr Ser Ala Phe Ser Tyr Leu Leu Lys Ser Gly Gly Leu
 50 55 60

Glu	Arg	Glu	Lys	Asp	Tyr	Pro	Tyr	Thr	Gly	Lys	Asp	Gly	Thr	Cys	Lys	65	70	75	80
Phe	Glu	Lys	Ser	Lys	Ile	Ala	Ala	Ser	Val	Gln	Asn	Phe	Ser	Val	Val	85	90	95	
Ala	Val	Asp	Glu	Glu	Gln	Ile	Ala	Ala	Asn	Leu	Val	Lys	Tyr	Gly	Pro	100	105	110	
Leu	Xaa	Ile	Gly	Ile	Asn	Ala	Ala	Tyr	Met	Gln	Thr	Tyr	Ile	Gly	Gly	115	120	125	
Val	Ser	Cys	Pro	Tyr	Ile	Cys	Gly	Arg	His	Leu	Asp	His	Gly	Val	Leu	130	135	140	
Leu	Val	Gly	Tyr	Gly	Ala	Ser	Gly	Phe	Ala	Pro	Ser	Arg	Phe	Lys	Glu	145	150	155	160
Lys	Pro	Tyr	Trp	Ile	Ile	Lys	Asn	Ser	Trp	Gly	Glu	Asn	Trp	Gly	Asp	165	170	175	
Lys	Gly	Tyr	Tyr	Lys	Ile	Cys	Arg	Gly	Ser	Asn	Val	Arg	Asn	Lys	Cys	180	185	190	
Gly	Val	Asp	Ser	Met	Val	Ser	Thr	Val	Ser	Ala	Thr	His	Ala	Ser	Lys	195	200	205	

Asp

<210> 17
 <211> 1174
 <212> DNA
 <213> Oryza sativa

<400> 17

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cgggcctacc	tcggcctccg	cacgtcgcgc	cgcgccttcc	tgcgggggct	cggcgggtcc	120
gcccacgagg	cgcccgctct	ccccaccgac	ggcctccccg	acgacttcga	ctggagagac	180
cacggcgccg	tcggccccgt	caagaaccag	ggatcgtgcg	ggtcgtgctg	gtcgttcagc	240
gcgtcggggg	cgctagaggg	agcgaactac	ctggcgacgg	gcaagatgga	cgtgctctcc	300
gagcagcaga	tggtcgattg	cgaccatgag	tgtgattcat	cagaacctga	ttcatgtgat	360
gctggatgca	atggtggatt	gatgactaac	gccttcagct	atcttttgaa	atccggtggc	420
cttgagagtg	agaaggatta	cccctacact	gggagggatg	gcacctgcaa	atttgacaag	480
tcgaagattg	ttacttcagt	tcagaacttc	agtgttgtct	ctgtcgatga	ggatcagatt	540
gctgccaacc	ttgtcaaaca	tgggccactt	gcaattggca	tcaatgctgc	gtacatgcaa	600
acatacattg	gtggtgtttc	gtgcccgtag	atctgtggca	ggcaccttga	tcacggtgtt	660
cttctcgttg	gctacggcgc	atctgggttt	gctccaatcc	gcctaaagga	taaggcctac	720
tggatcatca	agaactcctg	gggcgagaac	tggggagagc	atgggtacta	caagatctgc	780
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atccacacct	caaaggagta	gattctgata	agtagtcccc	cgaccatcct	gtggatgggt	900
cacagttggt	gattctgata	ttatatataa	gctagaacta	cgaaatatac	ttagtttatg	960
ctccatctgc	gctgttattg	cagttatgat	aagcagcgat	gatgtgaagc	tgcaactgaa	1020
tgtttgcctc	aagttatatg	cttggtttgc	tacgcaatgc	tacacgctat	ttggaggtag	1080
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<210> 18
 <211> 286

<212> PRT

<213> Oryza sativa

<400> 18

Ala Arg Ala Ala Glu His Gly Val Thr Lys Phe Ser Asp Leu Thr Pro
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Ala Glu Phe Arg Arg Ala Tyr Leu Gly Leu Arg Thr Ser Arg Arg Ala
20 25 30

Phe Leu Arg Gly Leu Gly Gly Ser Ala His Glu Ala Pro Val Leu Pro
35 40 45

Thr Asp Gly Leu Pro Asp Asp Phe Asp Trp Arg Asp His Gly Ala Val
50 55 60

Gly Pro Val Lys Asn Gln Gly Ser Cys Gly Ser Cys Trp Ser Phe Ser
65 70 75 80

Ala Ser Gly Ala Leu Glu Gly Ala Asn Tyr Leu Ala Thr Gly Lys Met
85 90 95

Asp Val Leu Ser Glu Gln Gln Met Val Asp Cys Asp His Glu Cys Asp
100 105 110

Ser Ser Glu Pro Asp Ser Cys Asp Ala Gly Cys Asn Gly Gly Leu Met
115 120 125

Thr Asn Ala Phe Ser Tyr Leu Leu Lys Ser Gly Gly Leu Glu Ser Glu
130 135 140

Lys Asp Tyr Pro Tyr Thr Gly Arg Asp Gly Thr Cys Lys Phe Asp Lys
145 150 155 160

Ser Lys Ile Val Thr Ser Val Gln Asn Phe Ser Val Val Ser Val Asp
165 170 175

Glu Asp Gln Ile Ala Ala Asn Leu Val Lys His Gly Pro Leu Ala Ile
180 185 190

Gly Ile Asn Ala Ala Tyr Met Gln Thr Tyr Ile Gly Gly Val Ser Cys
195 200 205

Pro Tyr Ile Cys Gly Arg His Leu Asp His Gly Val Leu Leu Val Gly
210 215 220

Tyr Gly Ala Ser Gly Phe Ala Pro Ile Arg Leu Lys Asp Lys Ala Tyr
225 230 235 240

Trp Ile Ile Lys Asn Ser Trp Gly Glu Asn Trp Gly Glu His Gly Tyr
245 250 255

Tyr Lys Ile Cys Arg Gly Ser Asn Val Arg Asn Lys Cys Gly Val Asp
260 265 270

Ser Met Val Ser Thr Val Ser Ala Ile His Thr Ser Lys Glu
275 280 285

<210> 19

<211> 935

<212> DNA
 <213> Triticum aestivum

<400> 19
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 aacctgattc atgcgatgct ggatgcaatg gtgggttgat gacttcagcc tttagctatc 180
 tgttgaaatc tgggtggcctt gagagagaaa aggattaccc ttacaccggg aaggacggta 240
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 ttgatgaaga acagattgct gctaaccctt tgaaatatgg accgctggcc atcgggtatca 360
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 gttactacaa gatctgcagg ggctcgaacg tgcgcaacaa gtgtggcgctc gactccatgg 600
 tctccacggg gtccgccact cacgcctcca aggacgagta ggctctggtc tgatctgatc 660
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 aagtcgcaat agaatgcttg ctgtataact tatgcatttg ctaaatttgc tacgccatgc 840
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 ttgtattgct tccatcaaaa aaaaaaaaaa aaaaa 935

<210> 20
 <211> 212
 <212> PRT
 <213> Triticum aestivum

<400> 20
 Thr Arg Ser Phe Ser Ala Ser Gly Ala Leu Glu Gly Ala Asn Tyr Leu
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 Ala Thr Gly Lys Met Glu Val Leu Ser Glu Gln Gln Leu Val Asp Cys
 20 25 30
 Asp His Glu Cys Asp Pro Ala Glu Pro Asp Ser Cys Asp Ala Gly Cys
 35 40 45
 Asn Gly Gly Leu Met Thr Ser Ala Phe Ser Tyr Leu Leu Lys Ser Gly
 50 55 60
 Gly Leu Glu Arg Glu Lys Asp Tyr Pro Tyr Thr Gly Lys Asp Gly Thr
 65 70 75 80
 Cys Lys Phe Glu Lys Ser Lys Ile Ala Ala Ser Val Gln Asn Phe Ser
 85 90 95
 Val Val Ala Val Asp Glu Glu Gln Ile Ala Ala Asn Leu Val Lys Tyr
 100 105 110
 Gly Pro Leu Ala Ile Gly Ile Asn Ala Ala Tyr Met Gln Thr Tyr Ile
 115 120 125
 Gly Gly Val Ser Cys Pro Tyr Ile Cys Gly Arg His Leu Asp His Gly
 130 135 140
 Val Leu Leu Val Gly Tyr Gly Ala Ser Gly Phe Ala Pro Ser Arg Phe
 145 150 155 160
 Lys Glu Lys Pro Tyr Trp Ile Ile Lys Asn Ser Trp Gly Glu Asn Trp
 165 170 175

Gly Asp Lys Gly Tyr Tyr Lys Ile Cys Arg Gly Ser Asn Val Arg Asn
 180 185 190

Lys Cys Gly Val Asp Ser Met Val Ser Thr Val Ser Ala Thr His Ala
 195 200 205

Ser Lys Asp Glu
 210

<210> 21
 <211> 743
 <212> DNA
 <213> Glycine max

<220>
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 <222> (645)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (680)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (740)
 <223> n = a, c, g or t

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 aagtgggtgcc ggacgcggag gaccaccacc tgctcaacgc ggagcaccac ttctccgcct 180
 tcaagacaaa gttcgccaag acctacgcca cgcaggagga gcacgaccac cgcttcgta 240
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 acggcgctcac caggttctcc gatctcactc cggctgagtt tcgcggccag ttctcggcc 360
 tgaagccgct ccgccttccc tccgacgctc agaaggctcc gatccttccg accagcgacc 420
 ttctaccga tttcgattgg cgcgaccatg gagctgttac cggcggtcaag aatcagggct 480
 cgtgcggtac gtgttggtca tttagcgccg ttggagcttt ggaagggtgcc cattttcttt 540
 ctaccggtgg gctcgtgagc ctcagtgagc agcaacttgt ggattgcat catgagtgtg 600
 atccggaaga acgtggagca tgtgattcgg gttgtaacgg tgggntgatg accactgcat 660
 tttgagtaca cactcaaggn tgggtgacta atgccaagaa agaggattat ccctacaatg 720
 ggagaaaacg ttggccctgn aaa 743

<210> 22
 <211> 234
 <212> PRT
 <213> Glycine max

<220>
 <221> UNSURE
 <222> (209)
 <223> Xaa = any amino acid

<220>
 <221> UNSURE

<222> (220)
 <223> Xaa = any amino acid

<400> 22

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Met Ala Asn Leu Ser Leu Leu Phe Phe Gly Leu Leu Leu Phe Ser Ala
 1           5           10           15

Ala Val Ala Thr Val Glu Arg Ile Asp Asp Glu Asp Asn Leu Leu Ile
      20           25           30

Arg Gln Val Val Pro Asp Ala Glu Asp His His Leu Leu Asn Ala Glu
      35           40           45

His His Phe Ser Ala Phe Lys Thr Lys Phe Ala Lys Thr Tyr Ala Thr
      50           55           60

Gln Glu Glu His Asp His Arg Phe Arg Ile Phe Lys Asn Asn Leu Leu
      65           70           75           80

Arg Ala Lys Ser His Gln Lys Leu Asp Pro Ser Ala Val His Gly Val
      85           90           95

Thr Arg Phe Ser Asp Leu Thr Pro Ala Glu Phe Arg Gly Gln Phe Leu
      100          105          110

Gly Leu Lys Pro Leu Arg Leu Pro Ser Asp Ala Gln Lys Ala Pro Ile
      115          120          125

Leu Pro Thr Ser Asp Leu Pro Thr Asp Phe Asp Trp Arg Asp His Gly
      130          135          140

Ala Val Thr Gly Val Lys Asn Gln Gly Ser Cys Gly Ser Cys Trp Ser
      145          150          155          160

Phe Ser Ala Val Gly Ala Leu Glu Gly Ala His Phe Leu Ser Thr Gly
      165          170          175

Gly Leu Val Ser Leu Ser Glu Gln Gln Leu Val Asp Cys Asp His Glu
      180          185          190

Cys Asp Pro Glu Glu Arg Gly Ala Cys Asp Ser Gly Cys Asn Gly Gly
      195          200          205

Xaa Met Thr Thr Ala Phe Glu Tyr Thr Leu Lys Xaa Gly Gly Leu Met
      210          215          220

Lys Lys Glu Asp Tyr Pro Tyr Asn Gly Arg
      225          230

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<210> 23

<211> 1369

<212> DNA

<213> Glycine max

<400> 23

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tgatccgtca agtggtgccg gacgcggagg accaccacct gctcaacgcg gagcaccact      180
tctccgcctt caagacaaaag ttcgccaaga cctacgccac gcaggaggag caccgaccacc      240
gcttccgtat cttcaagaac aacttgctcc gcgccaagtc gcaccagaaa ttggaccctt      300

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ccgccgtcca cggcgctcacc aggttctccg atctcactcc gtctgagttt cgcggccagt 360
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ccagcgacct tcctaccgat ttcgattggc gcgaccatgg agctgttacc ggcgtcaaga 480
atcagggctc gtgcggatgg tgttggtcat ttagcgccgt tggagctttg gaagggtccc 540
attttctttc taccggtggg ctctgagacc tcagtgaagca gcaacttgtg gattgcgac 600
atgagtgtga tccggaagag cgtggagcat gtgattcggg ttgtaacggt gggttgatga 660
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acactggaag agaccgtggc ccctgcaaat ttgacaagag caaaatcgct gcttccgtgg 780
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tatgctagct agtctagcta caaatattac ccacggttat cgatagttat tgcaagtaac 1320
ctgaataaaa ttaatttgtg ttcccacaat taaaaaaaaa aaaaaaaaaa 1369

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<210> 24
<211> 366
<212> PRT
<213> Glycine max

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<400> 24
Met Ala Asn Leu Ser Leu Leu Phe Phe Gly Leu Leu Leu Phe Ser Ala
 1             5             10             15

Ala Val Ala Thr Val Glu Arg Ile Asp Asp Glu Asp Asn Leu Leu Ile
      20             25             30

Arg Gln Val Val Pro Asp Ala Glu Asp His His Leu Leu Asn Ala Glu
      35             40             45

His His Phe Ser Ala Phe Lys Thr Lys Phe Ala Lys Thr Tyr Ala Thr
      50             55             60

Gln Glu Glu His Asp His Arg Phe Arg Ile Phe Lys Asn Asn Leu Leu
      65             70             75             80

Arg Ala Lys Ser His Gln Lys Leu Asp Pro Ser Ala Val His Gly Val
      85             90             95

Thr Arg Phe Ser Asp Leu Thr Pro Ser Glu Phe Arg Gly Gln Phe Leu
      100            105            110

Gly Leu Lys Pro Leu Arg Leu Pro Ser Asp Ala Gln Lys Ala Pro Ile
      115            120            125

Leu Pro Thr Ser Asp Leu Pro Thr Asp Phe Asp Trp Arg Asp His Gly
      130            135            140

Ala Val Thr Gly Val Lys Asn Gln Gly Ser Cys Gly Trp Cys Trp Ser
      145            150            155            160

Phe Ser Ala Val Gly Ala Leu Glu Gly Ala His Phe Leu Ser Thr Gly
      165            170            175

Gly Leu Val Ser Leu Ser Glu Gln Gln Leu Val Asp Cys Asp His Glu
      180            185            190

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Cys Asp Pro Glu Glu Arg Gly Ala Cys Asp Ser Gly Cys Asn Gly Gly
 195 200 205
 Leu Met Thr Thr Ala Phe Glu Tyr Thr Leu Lys Ala Gly Gly Leu Met
 210 215 220
 Arg Glu Glu Asp Tyr Pro Tyr Thr Gly Arg Asp Arg Gly Pro Cys Lys
 225 230 235 240
 Phe Asp Lys Ser Lys Ile Ala Ala Ser Val Ala Asn Phe Ser Val Val
 245 250 255
 Ser Leu Asp Glu Glu Gln Ile Ala Ala Asn Leu Val Lys Asn Gly Pro
 260 265 270
 Leu Ala Val Gly Ile Asn Ala Val Phe Met Gln Thr Tyr Ile Gly Gly
 275 280 285
 Val Ser Cys Pro Tyr Ile Cys Gly Lys His Leu Asp His Gly Val Leu
 290 295 300
 Leu Val Gly Tyr Gly Ser Gly Ala Tyr Ala Pro Ile Arg Phe Lys Glu
 305 310 315 320
 Lys Pro Tyr Trp Ile Ile Lys Asn Ser Trp Gly Glu Ser Trp Gly Glu
 325 330 335
 Glu Gly Tyr Tyr Lys Ile Cys Arg Gly Arg Asn Val Cys Gly Val Asp
 340 345 350
 Ser Met Val Ser Thr Val Ala Ala Ile His Val Ser Asn His
 355 360 365

<210> 25
 <211> 441
 <212> DNA
 <213> Zea mays

<220>
 <221> unsure
 <222> (362)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (375)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (398)
 <223> n = a, c, g or t

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 ataacccttg acatgggact tcttggtgct ggcacaaagt accgtggaga attcgaagaa 180
 agattaaaga agctgatgga ggaaataaag caaagtgatg agataatact ctttattgat 240
 gaagttcaca ctctgatagg agcaggagca gcggagggtgc tatagatgct gctaatatct 300

tgaagcctgc gttgccagag gtgaattaca gtgcattgga gccactacac tagatgaata 360
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 ccaacagtag atgaaacat t 441

<210> 26
 <211> 128
 <212> PRT
 <213> Zea mays

<220>
 <221> UNSURE
 <222> (121)
 <223> Xaa = any amino acid

<220>
 <221> UNSURE
 <222> (125)
 <223> Xaa = any amino acid

<400> 26
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 20 25 30
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 35 40 45
 Ala Gly Thr Lys Tyr Arg Gly Glu Phe Glu Glu Arg Leu Lys Lys Leu
 50 55 60
 Met Glu Glu Ile Lys Gln Ser Asp Glu Ile Ile Leu Phe Ile Asp Glu
 65 70 75 80
 Val His Thr Leu Ile Gly Ala Gly Ala Ala Glu Gly Ala Ile Asp Ala
 85 90 95
 Ala Asn Ile Leu Glu Ala Cys Val Ala Arg Gly Glu Leu Gln Cys Ile
 100 105 110
 Gly Ala Thr Thr Leu Asp Glu Tyr Xaa Lys Pro Ile Xaa Lys Asp Pro
 115 120 125

<210> 27
 <211> 2471
 <212> DNA
 <213> Oryza sativa

<400> 27
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 gctccgtgag ggtgaaggtg tagcagcccg tgtgctcgaa agccttggag ccgatacctag 180
 caatattcgc acgcaggtta tccgaatgat tggcgagact acagaagctg ttggtgcagg 240
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 aacaaaatta gcagaggagg gaaagctaga tcctgttggt ggaaggcaac cccagattga 360
 gcgtgtcgtg caaattcttg gcagacgaac aaagaacaac ccatgcttaa ttggagagcc 420
 tgggtgttga aagacagcaa ttgcagaagg ccttgctcaa cgcatttcta ctggtgatgt 480
 gcctgaaaca attgaaggaa agaaggtcat tacccttgat atgggacttc ttgttgctgg 540
 tacaaaatac cgtggagaat ttgaagaaag attaaagaag ctgatggaag aaatcaagca 600
 gagtgatgag ataatactat ttattgatga agtccacact ctcataggag caggagcagc 660

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caagttgatt ggttcacccc cagggtatgt tgggtacacg gaggtggac agctgactga 1620
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cctcaaccgt ctgcacgaga tgatcgtctt caggcaactc accaagctgg aggtcaagga 1980
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tgcgaggccg ctaaggaggg ccacatgatg gctcctggag gacagcctcg cggagaagat 2160
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<210> 28

<211> 760

<212> PRT

<213> *Oryza sativa*

<400> 28

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20 25 30

Ser Glu His Leu Leu Leu Gly Leu Leu Arg Glu Gly Glu Gly Val Ala
35 40 45

Ala Arg Val Leu Glu Ser Leu Gly Ala Asp Pro Ser Asn Ile Arg Thr
50 55 60

Gln Val Ile Arg Met Ile Gly Glu Thr Thr Glu Ala Val Gly Ala Gly
65 70 75 80

Val Gly Gly Gly Ser Ser Gly Asn Lys Met Pro Thr Leu Glu Glu Tyr
85 90 95

Gly Thr Asn Leu Thr Lys Leu Ala Glu Glu Gly Lys Leu Asp Pro Val
100 105 110

Val Gly Arg Gln Pro Gln Ile Glu Arg Val Val Gln Ile Leu Gly Arg
115 120 125

Arg	Thr	Lys	Asn	Asn	Pro	Cys	Leu	Ile	Gly	Glu	Pro	Gly	Val	Gly	Lys	130	135	140
Thr	Ala	Ile	Ala	Glu	Gly	Leu	Ala	Gln	Arg	Ile	Ser	Thr	Gly	Asp	Val	145	150	155
Pro	Glu	Thr	Ile	Glu	Gly	Lys	Lys	Val	Ile	Thr	Leu	Asp	Met	Gly	Leu	165	170	175
Leu	Val	Ala	Gly	Thr	Lys	Tyr	Arg	Gly	Glu	Phe	Glu	Glu	Arg	Leu	Lys	180	185	190
Lys	Leu	Met	Glu	Glu	Ile	Lys	Gln	Ser	Asp	Glu	Ile	Ile	Leu	Phe	Ile	195	200	205
Asp	Glu	Val	His	Thr	Leu	Ile	Gly	Ala	Gly	Ala	Ala	Glu	Gly	Ala	Ile	210	215	220
Asp	Ala	Ala	Asn	Ile	Leu	Lys	Pro	Ala	Leu	Ala	Arg	Gly	Glu	Leu	Gln	225	230	235
Cys	Ile	Gly	Ala	Thr	Thr	Leu	Asp	Glu	Tyr	Arg	Lys	His	Ile	Glu	Lys	245	250	255
Asp	Pro	Ala	Leu	Glu	Arg	Arg	Phe	Gln	Pro	Val	Arg	Val	Pro	Glu	Pro	260	265	270
Thr	Val	Asp	Glu	Thr	Ile	Glu	Ile	Leu	Arg	Gly	Leu	Arg	Glu	Arg	Tyr	275	280	285
Glu	Ile	His	His	Lys	Leu	Arg	Tyr	Thr	Asp	Asp	Ala	Leu	Ile	Ser	Ala	290	295	300
Ala	Lys	Leu	Ser	Tyr	Gln	Tyr	Ile	Ser	Asp	Arg	Phe	Leu	Pro	Asp	Lys	305	310	315
Ala	Ile	Asp	Leu	Ile	Asp	Glu	Ala	Gly	Ser	Arg	Val	Arg	Leu	Arg	His	325	330	335
Ala	Gln	Val	Pro	Glu	Glu	Ala	Arg	Glu	Leu	Asp	Lys	Glu	Leu	Lys	Gln	340	345	350
Ile	Thr	Lys	Asp	Lys	Asn	Glu	Ala	Val	Arg	Ser	Gln	Asp	Phe	Glu	Lys	355	360	365
Ala	Gly	Glu	Leu	Arg	Asp	Arg	Glu	Met	Glu	Leu	Lys	Ala	Gln	Ile	Thr	370	375	380
Ala	Leu	Ile	Asp	Lys	Ser	Lys	Glu	Met	Ser	Lys	Ala	Glu	Thr	Glu	Ser	385	390	395
Gly	Glu	Thr	Gly	Pro	Leu	Val	Asn	Glu	Ala	Asp	Ile	Gln	His	Ile	Val	405	410	415
Ser	Ser	Trp	Thr	Gly	Ile	Pro	Val	Glu	Lys	Val	Ser	Ser	Asp	Glu	Ser	420	425	430
Asp	Lys	Leu	Leu	Lys	Met	Glu	Glu	Thr	Leu	His	Gln	Arg	Val	Ile	Gly	435	440	445

Gln	Asp	Glu	Ala	Val	Lys	Ala	Ile	Ser	Arg	Ser	Ile	Arg	Arg	Ala	Arg	
450						455					460					
Val	Gly	Leu	Lys	Asn	Pro	Asn	Arg	Pro	Ile	Ala	Ser	Phe	Ile	Phe	Ala	
465					470					475					480	
Gly	Pro	Thr	Gly	Val	Gly	Lys	Ser	Glu	Leu	Ala	Lys	Ala	Leu	Ala	Ala	
				485					490						495	
Tyr	Tyr	Phe	Gly	Ser	Glu	Glu	Ala	Met	Ile	Arg	Leu	Asp	Met	Ser	Glu	
			500					505					510			
Phe	Met	Glu	Arg	His	Thr	Val	Ser	Lys	Leu	Ile	Gly	Ser	Pro	Pro	Gly	
		515					520					525				
Tyr	Val	Gly	Tyr	Thr	Glu	Gly	Gly	Gln	Leu	Thr	Glu	Ala	Val	Arg	Arg	
	530					535					540					
Arg	Pro	Tyr	Thr	Val	Val	Leu	Phe	Asp	Glu	Ile	Glu	Lys	Ala	His	Pro	
545					550					555					560	
Asp	Val	Phe	Asn	Met	Met	Leu	Gln	Ile	Leu	Glu	Asp	Gly	Arg	Leu	Thr	
				565					570					575		
Asp	Ser	Lys	Gly	Arg	Thr	Val	Asp	Phe	Lys	Asn	Thr	Leu	Leu	Ile	Met	
			580					585					590			
Thr	Ser	Asn	Val	Gly	Ser	Ser	Val	Ile	Glu	Lys	Gly	Gly	Arg	Lys	Ile	
		595					600					605				
Gly	Phe	Asp	Leu	Asp	Tyr	Asp	Glu	Lys	Asp	Ser	Ser	Tyr	Ser	Arg	Ile	
	610					615					620					
Lys	Ser	Leu	Val	Val	Glu	Glu	Met	Lys	Gln	Tyr	Phe	Arg	Pro	Glu	Phe	
625					630					635					640	
Leu	Asn	Arg	Leu	Asp	Glu	Met	Ile	Val	Phe	Arg	Gln	Leu	Thr	Lys	Leu	
				645					650					655		
Glu	Val	Lys	Glu	Ile	Ala	Glu	Ile	Met	Leu	Lys	Glu	Val	Phe	Asp	Arg	
			660					665					670			
Leu	Lys	Ala	Lys	Asp	Ile	Asp	Leu	Gln	Val	Thr	Glu	Lys	Phe	Lys	Glu	
		675					680					685				
Arg	Ile	Val	Asp	Glu	Gly	Phe	Asn	Pro	Ser	Tyr	Gly	Ala	Arg	Pro	Leu	
	690					695					700					
Arg	Arg	Ala	Ile	Met	Arg	Leu	Leu	Glu	Asp	Ser	Leu	Ala	Glu	Lys	Met	
705					710					715					720	
Leu	Ala	Gly	Glu	Val	Lys	Glu	Gly	Asp	Ser	Ala	Ile	Val	Asp	Val	Asp	
				725					730					735		
Ser	Glu	Gly	Lys	Val	Ile	Val	Leu	Asn	Gly	Gln	Ser	Gly	Leu	Pro	Glu	
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Leu	Ser	Thr	Pro	Ala	Val	Thr	Val									
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<210> 29
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 <212> DNA
 <213> Triticum aestivum

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 <222> (434)
 <223> n = a, c, g or t

<220>
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 <222> (462)
 <223> n = a, c, g or t

<220>
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 <222> (495)
 <223> n = a, c, g or t

<220>
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 <222> (515)
 <223> n = a, c, g or t

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 catggtgaac acatccggat gtgccttctc aatctcatca aaaagcacia cgctgtatgg 180
 ccgccgtcga accgcctccg tcagctgccc accttcagtg tatcccacat agcctgggtg 240
 tgaaccgatc aacttggaca cagtgtgcct ctccatgaac tcactcatat ccagccgat 300
 catggcttct tcagagccga agtaatatga tgccagagtc tttgcaagct ctgatttccc 360
 aacaccagtg ggacctgcaa aaatgaagct cgcaattggg ctgttggggc tcttgagggc 420
 cacacgagca cggngaacag accgacttat tgctttcaca gnctcgtctt gggcgatgac 480
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<210> 30
 <211> 178
 <212> PRT
 <213> Triticum aestivum

<220>
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 <222> (9)
 <223> Xaa = any amino acid

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 <222> (27)
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<220>
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<222> (36)

<223> Xaa = any amino acid

<400> 30

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20 25 30
Arg Ser Val Xaa Arg Ala Arg Val Ala Leu Lys Ser Pro Asn Arg Pro
35 40 45
Ile Ala Ser Phe Ile Phe Ala Gly Pro Thr Gly Val Gly Lys Ser Glu
50 55 60
Leu Ala Lys Thr Leu Ala Ser Tyr Tyr Phe Gly Ser Glu Glu Ala Met
65 70 75 80
Ile Arg Leu Asp Met Ser Glu Phe Met Glu Arg His Thr Val Ser Lys
85 90 95
Leu Ile Gly Ser Pro Pro Gly Tyr Val Gly Tyr Thr Glu Gly Gly Gln
100 105 110
Leu Thr Glu Ala Val Arg Arg Arg Pro Tyr Ser Val Val Leu Phe Asp
115 120 125
Glu Ile Glu Lys Ala His Pro Asp Val Phe Asn Met Met Leu Gln Ile
130 135 140
Leu Glu Asp Gly Arg Leu Thr Asp Ser Lys Gly Arg Thr Val Asp Phe
145 150 155 160
Lys Asn Thr Leu Leu Ile Met Thr Ser Asn Val Gly Ser Ser Val Ile
165 170 175

Glu Lys

<210> 31

<211> 2050

<212> DNA

<213> Zea mays

<400> 31

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gaaaaaggctc ataacccttg acatgggact tcttggtgct ggcacaaagt accgtggaga 180
attcgaagaa agattaaaga agctgatgga ggaaataaag caaagtgatg agataatact 240
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tgacaaaatt aatagcatag tttttgttca aacacattat catttatggt tagaatatct 1980
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<210> 32
<211> 550
<212> PRT
<213> Zea mays

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      20              25              30

Gly Ala Thr Thr Leu Asp Glu Tyr Arg Lys His Ile Glu Lys Asp Pro
      35              40              45

Ala Leu Glu Arg Arg Phe Gln Pro Val Lys Val Pro Glu Pro Thr Val
      50              55              60

Asp Glu Thr Ile Glu Ile Leu Arg Gly Leu Arg Glu Arg Tyr Glu Ile
      65              70              75              80

His His Lys Leu Arg Tyr Thr Asp Glu Ala Leu Ile Ala Ala Ala Lys
      85              90              95

Leu Ser Tyr Gln Tyr Ile Ser Asp Arg Phe Leu Pro Asp Lys Ala Ile
      100             105             110

Asp Leu Ile Asp Glu Ala Gly Ser Arg Val Arg Leu Gln His Ala Gln
      115             120             125

Val Pro Glu Glu Ala Arg Glu Leu Asp Lys Glu Leu Lys Gln Val Thr
      130             135             140

Lys Gln Lys Asn Glu Ala Val Arg Ser Gln Asp Phe Glu Lys Ala Gly
      145             150             155             160

Glu Leu Arg Asp Arg Glu Met Glu Leu Lys Ala Gln Ile Thr Ala Leu
      165             170             175

Ile Asp Lys Ser Lys Glu Leu Ser Lys Ala Glu Glu Glu Ser Gly Glu

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180					185					190					
Thr	Gly	Pro	Met	Val	Asn	Glu	Glu	Asp	Ile	Gln	His	Ile	Val	Ser	Ser
		195					200					205			
Trp	Thr	Gly	Ile	Pro	Val	Glu	Lys	Val	Ser	Ser	Asp	Glu	Ser	Asp	Lys
	210					215					220				
Leu	Leu	Lys	Met	Glu	Glu	Thr	Leu	His	Lys	Arg	Val	Ile	Gly	Gln	Asp
225				230						235					240
Glu	Ala	Val	Val	Ala	Ile	Ser	Arg	Ser	Ile	Arg	Arg	Ala	Arg	Val	Gly
				245					250					255	
Leu	Lys	Asn	Pro	Asn	Arg	Pro	Ile	Ala	Ser	Phe	Ile	Phe	Ala	Gly	Pro
			260					265					270		
Thr	Gly	Val	Gly	Lys	Ser	Glu	Leu	Ala	Lys	Ala	Leu	Ala	Ala	Tyr	Tyr
		275					280					285			
Phe	Gly	Ser	Glu	Glu	Ala	Met	Ile	Arg	Leu	Asp	Met	Ser	Glu	Phe	Met
	290					295					300				
Glu	Arg	His	Thr	Val	Ser	Lys	Leu	Ile	Gly	Ser	Pro	Pro	Gly	Tyr	Val
305				310						315					320
Gly	Tyr	Thr	Glu	Gly	Gly	Gln	Leu	Thr	Glu	Ala	Val	Arg	Arg	Arg	Pro
			325						330					335	
Tyr	Thr	Val	Val	Leu	Phe	Asp	Glu	Ile	Glu	Lys	Ala	His	Pro	Asp	Val
			340					345					350		
Phe	Asn	Met	Met	Leu	Gln	Ile	Leu	Glu	Asp	Gly	Arg	Leu	Thr	Asp	Ser
		355					360					365			
Lys	Gly	Arg	Thr	Val	Asp	Phe	Lys	Asn	Thr	Leu	Leu	Ile	Met	Thr	Ser
	370					375					380				
Asn	Val	Gly	Ser	Ser	Val	Ile	Glu	Lys	Gly	Gly	Arg	Lys	Ile	Gly	Phe
385				390						395					400
Asp	Leu	Asp	Ser	Asp	Glu	Lys	Asp	Ser	Ser	Tyr	Ser	Arg	Ile	Lys	Ser
			405						410					415	
Leu	Val	Ile	Glu	Glu	Met	Lys	Gln	Tyr	Phe	Arg	Pro	Glu	Phe	Leu	Asn
			420					425					430		
Arg	Leu	Asp	Glu	Met	Ile	Val	Phe	Arg	Gln	Leu	Thr	Lys	Leu	Glu	Val
		435					440					445			
Lys	Glu	Ile	Ala	Asp	Ile	Met	Leu	Gln	Glu	Val	Phe	Asp	Arg	Leu	Lys
	450					455					460				
Ala	Lys	Asp	Ile	Asn	Leu	Gln	Val	Thr	Glu	Lys	Phe	Lys	Glu	Arg	Val
465				470						475					480
Val	Asp	Glu	Gly	Tyr	Asn	Pro	Ser	Tyr	Gly	Ala	Arg	Pro	Leu	Arg	Arg
			485						490				495		
Ala	Ile	Met	Arg	Leu	Leu	Glu	Asp	Ser	Leu	Ala	Glu	Lys	Met	Leu	Ala
			500					505					510		

Gly Glu Val Lys Glu Gly Asp Ser Ala Ile Val Asp Val Asp Ser Glu
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Gly Lys Val Val Val Leu Asn Gly Gln Gly Gly Ile Pro Glu Leu Ser
530 535 540

Thr Pro Ala Ile Thr Val
545 550

<210> 33
<211> 740
<212> DNA
<213> Oryza sativa

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<222> (628)
<223> n = a, c, g or t

<220>
<221> unsure
<222> (674)
<223> n = a, c, g or t

<220>
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<222> (740)
<223> n = a, c, g or t

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gctccgtgag ggtgaagggt tagcagcccg tgtgctcgaa agccttggag ccgatacctag 180
caatattcgc acgcaggtta tccgaatgat tggcgagact acagaagctg ttggtgcagg 240
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aacaaaatta gcagaggagg gaaagctaga tcctgttggt ggaaggcaac cccagattga 360
gcgtgtcgta caaattctgg ggcagacgaa caaagaacaa cccatgcctt aattggagaa 420
cctggtggtt ggaaaagaca gcaattgcag aaggccttgc tcaacgcatt tctactggtg 480
atgtgcctga aacaattgaa ggaaagaagg tcattaccct tgatatggga cttcttggtg 540
ctggtacaaa ataccgtgga gaatttgaag aaagattaaa gaagctgatg gaagaaatca 600
agcagagtga tgagataata ctatttantg atgaagtcca cactctcata ggagcaggag 660
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atgttttggg gccacacacn 740

<210> 34
<211> 298
<212> PRT
<213> Oryza sativa

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<222> (65)..(66)..(67)..(68)
<223> Xaa = any amino acid

<220>
<221> UNSURE
<222> (276)
<223> Xaa = any amino acid

<400> 34

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		20						25					30		
Leu	Leu	Arg	Glu	Gly	Glu	Gly	Val	Ala	Ala	Arg	Val	Leu	Glu	Ser	Leu
		35					40					45			
Gly	Ala	Asp	Pro	Ser	Asn	Ile	Arg	Thr	Gln	Val	Ile	Arg	Met	Ile	Gly
	50					55					60				
Xaa	Xaa	Xaa	Xaa	Phe	Val	Ala	Val	Glu	Ile	Pro	Phe	Thr	Pro	Arg	Ala
65					70					75					80
Lys	Arg	Val	Leu	Glu	Leu	Ser	Leu	Glu	Glu	Ala	Arg	Gln	Leu	Gly	His
			85						90					95	
Asn	Tyr	Ile	Gly	Ser	Glu	His	Leu	Leu	Leu	Gly	Leu	Leu	Arg	Glu	Gly
		100						105					110		
Glu	Gly	Val	Ala	Ala	Arg	Val	Leu	Glu	Ser	Leu	Gly	Ala	Asp	Pro	Ser
		115					120					125			
Asn	Ile	Arg	Thr	Gln	Val	Ile	Arg	Met	Ile	Gly	Glu	Thr	Thr	Glu	Ala
	130					135					140				
Val	Gly	Ala	Gly	Val	Gly	Gly	Gly	Ser	Ser	Gly	Asn	Lys	Met	Pro	Thr
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Leu	Glu	Glu	Tyr	Gly	Thr	Asn	Leu	Thr	Lys	Leu	Ala	Glu	Glu	Gly	Lys
				165					170					175	
Leu	Asp	Pro	Val	Val	Gly	Arg	Gln	Pro	Arg	Leu	Ser	Val	Ser	Tyr	Lys
			180					185					190		
Phe	Trp	Gly	Arg	Arg	Thr	Lys	Asn	Asn	Pro	Cys	Leu	Ile	Gly	Glu	Pro
		195					200					205			
Gly	Val	Trp	Lys	Thr	Ala	Ile	Ala	Glu	Gly	Leu	Ala	Gln	Arg	Ile	Ser
	210					215					220				
Thr	Gly	Asp	Val	Pro	Glu	Thr	Ile	Glu	Gly	Lys	Lys	Val	Ile	Thr	Leu
225					230					235					240
Asp	Met	Gly	Leu	Leu	Val	Ala	Gly	Thr	Lys	Tyr	Arg	Gly	Glu	Phe	Glu
			245						250					255	
Glu	Arg	Leu	Lys	Lys	Leu	Met	Glu	Glu	Ile	Lys	Gln	Ser	Asp	Glu	Ile
			260					265					270		
Ile	Leu	Phe	Xaa	Asp	Glu	Val	His	Thr	Leu	Ile	Gly	Ala	Gly	Ala	Thr
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Glu	Gly	Ala	Ile	Asp	Ala	Ala	Asn	Ile	Leu						
	290						295								

<210> 35

<211> 1205

<212> DNA

<213> *Triticum aestivum*

<400> 35

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agagtgttca ttgatataat tggaagatga catgtaattt catagtatga tctagggcgtt 180
cttgtcgggtg cggtcgggtct cagttgatga TAAAAAatgt ttgtcatact tctgacatta 240
aatagttatc actgcaagta aattattact agtgtccttg aacctgcctt ttctctagca 300
TAAAAaccgc actagtgtat gTTTattcta ttcatgtggg ttgatgatct caactttctg 360
gatgccaaacc accatatatc tgcactttct ttgatataga tgctaactaa tagttgctat 420
taatatattc cctttatcga aaaaaaacta atggttgctg tgctgttgct aatgttatgc 480
cattaggctg gagagtTgcg agatcgtgaa atggaattga aggcgcagaa taacagcctt 540
gattgacaag agcaaggaga tgaacaaagc agagactgag tcgggagaga cggggccgat 600
gggtgcatgaa tcagatatcc agcacattgt gtcatcatgg actggtattc cagtggagaa 660
agtctcgact gacgaatctg ataaacttct taagatggaa gagacattgc ataagcgtgt 720
catcggccaa gacgaggctg tgaaagcaat aagtcgggtct gttcgccgtg ctctgtgtggg 780
cctcaagagc cccaacagac caattgcgag cttcattttt gcaggtcca ctggtgttgg 840
gaaatcagag cttgcaaaga ctctggcatc atattacttc ggctctgaag aagccatgat 900
ccggctggat atgagtgagt tcatggagag gcacactgtg tccaagttga tcggttcacc 960
accaggctat gtgggataca ctgaagggtg gcagctgacg gaggcggttc gacggcggcc 1020
atacagcgtt gtgctTTTTg atgagattga gaaggcacat ccggatgtgt tcaacatgat 1080
gctccagatc ctggaagacg gaaggTTaac cgacagcaag gggagaacag tggacttcaa 1140
gaacacgctc ctgataatga catcaaTgt tgggagcagc gtgattgaga agaagaagct 1200
cgtgc 1205
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<210> 36

<211> 239

<212> PRT

<213> *Triticum aestivum*

<400> 36

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Ala Gly Glu Leu Arg Asp Arg Glu Met Glu Leu Arg Arg Gln Ile Thr
  1              5              10              15

Ala Leu Ile Asp Lys Ser Lys Glu Met Asn Lys Ala Glu Thr Glu Ser
  20              25              30

Gly Glu Thr Gly Pro Met Val His Glu Ser Asp Ile Gln His Ile Val
  35              40              45

Ser Ser Trp Thr Gly Ile Pro Val Glu Lys Val Ser Thr Asp Glu Ser
  50              55              60

Asp Lys Leu Leu Lys Met Glu Glu Thr Leu His Lys Arg Val Ile Gly
  65              70              75              80

Gln Asp Glu Ala Val Lys Ala Ile Ser Arg Ser Val Arg Arg Ala Arg
  85              90              95

Val Gly Leu Lys Ser Pro Asn Arg Pro Ile Ala Ser Phe Ile Phe Ala
 100              105              110

Gly Pro Thr Gly Val Gly Lys Ser Glu Leu Ala Lys Thr Leu Ala Ser
 115              120              125

Tyr Tyr Phe Gly Ser Glu Glu Ala Met Ile Arg Leu Asp Met Ser Glu
 130              135              140

Phe Met Glu Arg His Thr Val Ser Lys Leu Ile Gly Ser Pro Pro Gly
 145              150              155              160
```

Tyr	Val	Gly	Tyr	Thr	Glu	Gly	Gly	Gln	Leu	Thr	Glu	Ala	Val	Arg	Arg
				165					170					175	
Arg	Pro	Tyr	Ser	Val	Val	Leu	Phe	Asp	Glu	Ile	Glu	Lys	Ala	His	Pro
			180					185					190		
Asp	Val	Phe	Asn	Met	Met	Leu	Gln	Ile	Leu	Glu	Asp	Gly	Arg	Leu	Thr
		195					200					205			
Asp	Ser	Lys	Gly	Arg	Thr	Val	Asp	Phe	Lys	Asn	Thr	Leu	Leu	Ile	Met
	210					215					220				
Thr	Ser	Asn	Val	Gly	Ser	Ser	Val	Ile	Glu	Lys	Lys	Lys	Leu	Val	
225					230					235					

<210> 37
 <211> 498
 <212> DNA
 <213> Zea mays

<220>
 <221> unsure
 <222> (327)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (350)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (359)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (372)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (397)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (423)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (448)
 <223> n = a, c, g or t

<220>
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 <222> (459)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (486)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (492)
 <223> n = a, c, g or t

<400> 37
 agctcctcct ccttgacgcc atcgacccgg actctgacat ccgcctcttc gtcaactcac 60
 caggggggatc ccttagcgca acaatggcca tctatgatgt aatgcagctt gtgagggcag 120
 acgtgtccac tattggaatg ggcatagctg gatcaacagc ttctataatc cttggtggtg 180
 gcacgaaggg caagcgattt gccatgcccc acaccaggat tatgatccat cagcctgtcg 240
 gaggtgcaag cgggcaggcc ctagatgtag aggtccaagc gaaggagata ttgaccaaca 300
 agaggaatgt tcatcgatc gtatcangct tcacaggccg cactcctgan ccagtagana 360
 aagacttgac anagatcgta caggggcctc tcgaggngtc gataggatca tgatgctgat 420
 cgntgagaat atatccattg agctgtcnga gaggtgaanc taatacatag aagacgtaca 480
 gtcacnagtt cntacaca 498

<210> 38
 <211> 113
 <212> PRT
 <213> Zea mays

<220>
 <221> UNSURE
 <222> (109)
 <223> Xaa = any amino acid

<400> 38
 Leu Leu Leu Leu Asp Ala Ile Asp Pro Asp Ser Asp Ile Arg Leu Phe
 1 5 10 15
 Val Asn Ser Pro Gly Gly Ser Leu Ser Ala Thr Met Ala Ile Tyr Asp
 20 25 30
 Val Met Gln Leu Val Arg Ala Asp Val Ser Thr Ile Gly Met Gly Ile
 35 40 45
 Ala Gly Ser Thr Ala Ser Ile Ile Leu Gly Gly Gly Thr Lys Gly Lys
 50 55 60
 Arg Phe Ala Met Pro Asn Thr Arg Ile Met Ile His Gln Pro Val Gly
 65 70 75 80
 Gly Ala Ser Gly Gln Ala Leu Asp Val Glu Val Gln Ala Lys Glu Ile
 85 90 95
 Leu Thr Asn Lys Arg Asn Val His Arg Ile Val Ser Xaa Phe Thr Gly
 100 105 110

Arg

<210> 39
 <211> 459
 <212> DNA
 <213> Oryza sativa

<400> 39
 cgctgccccg tcaccacgct ctgcatcggc caggccgcgt ccatgggctc cctcctgctc 60
 gccgccggcg cgcgcgggga gcgccgggag ctgcccacg cgcggggtcat gattcaccag 120
 ccatccgggg gcgcgagagg ccaggccacc gacatcgcca tccaggccaa ggagattctc 180
 aagctgcgcg accgcctcaa caagatctac cagaagcaca ccggccagga gatcgacaag 240
 atcgagcagt gcatggagcg cgacctcttc atggaccccc aggaggcgcg cgattggggg 300
 ctcatcgacg aggttaattga gaaccgcccc gcgtccctga taccgaggg cgccactggc 360
 gttgacctgc cgcaccacag cgccgctggc gtcggcgga ggggcagaga tgtcgaggag 420
 ccctccgcgg tgtgagctgt ggccgcaaag gtgaaacct 459

<210> 40
 <211> 109
 <212> PRT
 <213> Oryza sativa

<400> 40
 Arg Cys Pro Val Thr Thr Leu Cys Ile Gly Gln Ala Ala Ser Met Gly
 1 5 10 15
 Ser Leu Leu Leu Ala Ala Gly Ala Arg Gly Glu Arg Arg Ala Leu Pro
 20 25 30
 Asn Ala Arg Val Met Ile His Gln Pro Ser Gly Gly Ala Gln Gly Gln
 35 40 45
 Ala Thr Asp Ile Ala Ile Gln Ala Lys Glu Ile Leu Lys Leu Arg Asp
 50 55 60
 Arg Leu Asn Lys Ile Tyr Gln Lys His Thr Gly Gln Glu Ile Asp Lys
 65 70 75 80
 Ile Glu Gln Cys Met Glu Arg Asp Leu Phe Met Asp Pro Glu Glu Ala
 85 90 95
 Arg Asp Trp Gly Leu Ile Asp Glu Val Ile Glu Asn Arg
 100 105

<210> 41
 <211> 466
 <212> DNA
 <213> Glycine max

<400> 41
 ggagcgtttc cagagtgtta taagtcagct tttccaatac aggataatcc gttgtggtgg 60
 agcagttgat gacgatatgg caaacatcat agttgctcag ctctgtgacc tcgacgctgt 120
 tgatcctaac aaggatattg tcatgtatgt aaattctcca ggaggggtcgg ttacagctgg 180
 aatggctata tttgatacaa tgaggcatat ccgacctgat gtgtctactg tttgtgttgg 240
 attagcagct agtatgggag cttttctgct gagcgaggg acaaaaggaa agagatacag 300
 cttgccaaat tcaaggataa tgattcatca accgcttggg ggtgctcaag gagggcaaac 360
 tgacatagat attcaggcta atgaaatgct gcatcaaaaag gcaaactctga atggatatct 420
 cgctatcac actggccaaa gttagacaa agatcaacca agatac 466

<210> 42
 <211> 150
 <212> PRT
 <213> Glycine max

<400> 42
 Glu Arg Phe Gln Ser Val Ile Ser Gln Leu Phe Gln Tyr Arg Ile Ile
 1 5 10 15

Arg Cys Gly Gly Ala Val Asp Asp Asp Met Ala Asn Ile Ile Val Ala
 20 25 30
 Gln Leu Leu Tyr Leu Asp Ala Val Asp Pro Asn Lys Asp Ile Val Met
 35 40 45
 Tyr Val Asn Ser Pro Gly Gly Ser Val Thr Ala Gly Met Ala Ile Phe
 50 55 60
 Asp Thr Met Arg His Ile Arg Pro Asp Val Ser Thr Val Cys Val Gly
 65 70 75 80
 Leu Ala Ala Ser Met Gly Ala Phe Leu Leu Ser Ala Gly Thr Lys Gly
 85 90 95
 Lys Arg Tyr Ser Leu Pro Asn Ser Arg Ile Met Ile His Gln Pro Leu
 100 105 110
 Gly Gly Ala Gln Gly Gly Gln Thr Asp Ile Asp Ile Gln Ala Asn Glu
 115 120 125
 Met Leu His Gln Lys Ala Asn Leu Asn Gly Tyr Leu Ala Tyr His Thr
 130 135 140
 Gly Gln Ser Leu Asp Lys
 145 150

<210> 43
 <211> 617
 <212> DNA
 <213> Triticum aestivum

<220>
 <221> unsure
 <222> (358)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (402)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (410)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (439)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (447)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (495)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (571)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (574)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (600)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (602)
 <223> n = a, c, g or t

<400> 43
 ggcggtcctg tggaggatga tatggccaac gtcattgttg cgcagctgct atacctggac 60
 gccgttgatc ctaacaagga tatcattatg tatgtgaact ctccaggagg atcagtgaca 120
 gctgggatgg ccatatttga tacaatgaag catatcaggc ctgatgttcc gacagtttgt 180
 atcggacttg ctgcaagtat gggtgctttt ctacttagcg gtgggacgaa agggaagagg 240
 tacagcttac ctaactcaag aataatgata catcagcctc ttgggaggag cccaaggaca 300
 agagaccgac cttgagattc caaggccaaa tgagatgctg caccacaagg ccaactnta 360
 acggatacct agcataccac actgggcagc ccctggataa gncaatgtan atactgaccg 420
 tgacttcctc aagagcgcn aaggagnaaa ggagtatggg ccttattgat ggagtaatcg 480
 tgaaccctct taaancgctg caaccactcc agctccagtt agccatccgt gcacaaaatc 540
 tatgccgctc aagcaatttt gtgtgatctc nganttgtgt tgtacacctg ttttcgtagn 600
 cngctaaatg cttttgat 617

<210> 44
 <211> 95
 <212> PRT
 <213> Triticum aestivum

<400> 44
 Gly Gly Pro Val Glu Asp Asp Met Ala Asn Val Ile Val Ala Gln Leu
 1 5 10 15
 Leu Tyr Leu Asp Ala Val Asp Pro Asn Lys Asp Ile Ile Met Tyr Val
 20 25 30
 Asn Ser Pro Gly Gly Ser Val Thr Ala Gly Met Ala Ile Phe Asp Thr
 35 40 45
 Met Lys His Ile Arg Pro Asp Val Ser Thr Val Cys Ile Gly Leu Ala
 50 55 60
 Ala Ser Met Gly Ala Phe Leu Leu Ser Gly Gly Thr Lys Gly Lys Arg
 65 70 75 80
 Tyr Ser Leu Pro Asn Ser Arg Ile Met Ile His Gln Pro Leu Gly
 85 90 95

<210> 45
 <211> 521

<212> DNA
 <213> Triticum aestivum

<220>
 <221> unsure
 <222> (384)
 <223> n = a, c, g or t

<220>
 <221> unsure
 <222> (469)
 <223> n = a, c, g or t

<400> 45
 ctctacatca actcccccg gggcgctcgtc accgcgcgggc tcgccatcta cgacaccatg 60
 cagtacatcc gctgccccgt caacaccatc tgcacgcggcc aggcgcgctc catgggctcc 120
 ctctctctcg ccgcgcggcg gcgcggggag aggcgcggcg tgcccaacgc cagggtcatg 180
 atccaccagc cctccggcgg ggcccagggc caggccaccg acatcgccat ccaggccaag 240
 gagatactca aagctgcgcg accgcctcaa caagatctac gccaaagcaca cgggccaaga 300
 acatcgacaa gatcgagcag tgcattggagc gtgacctttt catggacccc cgaggaggcc 360
 gcgaatgggg ggtttataga cgaatgcacg gagaacgccc ggctccctca tcctgatggc 420
 tcatgccgtt gaccgcctca cacgggtggg gccccgcgcc aacggcgtng caaggaaagg 480
 atatggagga cctccgcgta taagggtggc aagcacaag g 521

<210> 46
 <211> 84
 <212> PRT
 <213> Triticum aestivum

<400> 46
 Leu Tyr Ile Asn Ser Pro Gly Gly Val Val Thr Ala Gly Leu Ala Ile
 1 5 10 15
 Tyr Asp Thr Met Gln Tyr Ile Arg Cys Pro Val Asn Thr Ile Cys Ile
 20 25 30
 Gly Gln Ala Ala Ser Met Gly Ser Leu Leu Leu Ala Ala Gly Ala Arg
 35 40 45
 Gly Glu Arg Arg Ala Leu Pro Asn Ala Arg Val Met Ile His Gln Pro
 50 55 60
 Ser Gly Gly Ala Gln Gly Gln Ala Thr Asp Ile Ala Ile Gln Ala Lys
 65 70 75 80
 Glu Ile Leu Lys

<210> 47
 <211> 900
 <212> DNA
 <213> Zea mays

<400> 47
 ccacgcgtcc gagctcctcc tccttgacgc catcgaccgc gactctgaca tccgcctctt 60
 cgtcaactca ccagggggat cccttagcgc aacaatggcc atctatgatg taatgcagct 120
 tgtgagggca gacgtgtcca ctattggaat gggcatagct ggatcaacag cttctataat 180
 ccttggtggt ggcacgaagg gcaagcgatt tgccatgccc aacaccagga ttatgatcca 240
 tcagcctgtc ggaggtgcaa gcgggcaggc cctagatgta gaggtccaag cgaaggagat 300
 attgaccaac aagaggaatg tcattcggat cgtatcaggc ttcacaggcc gcactcctga 360
 gcaggtagag aaagacattg acagagatcg ttacatgggc cctctcgagg ctgtcgatta 420

```

tggactcatt gatggcgtga tcgatggaga cagtattatc ccacttgagc ctgtcccgga 480
gaggggtgaag cctaagtaca actacgaaga gctgtacaag gatccacaga agtttcttac 540
accagatgtc ccagatgatg agatatacta gtcgaaaagt tgtattttgt gcgaatgtta 600
agtctgttct tcagcaagca gatgtttttc gtcgcttgta gctgtcaaac caaccatagc 660
actagtagct tattgatctt gtttactgac tggatgggtga ttcgagcagg caactagaac 720
ctgttggttg tgtttctggt gttacattgt ggtgtagtaa tgggtccggct gtttcgtttt 780
gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 840
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 900

```

<210> 48
 <211> 189
 <212> PRT
 <213> Zea mays

```

<400> 48
His Ala Ser Glu Leu Leu Leu Leu Asp Ala Ile Asp Pro Asp Ser Asp
  1             5             10            15

Ile Arg Leu Phe Val Asn Ser Pro Gly Gly Ser Leu Ser Ala Thr Met
      20             25            30

Ala Ile Tyr Asp Val Met Gln Leu Val Arg Ala Asp Val Ser Thr Ile
      35             40            45

Gly Met Gly Ile Ala Gly Ser Thr Ala Ser Ile Ile Leu Gly Gly Gly
      50             55            60

Thr Lys Gly Lys Arg Phe Ala Met Pro Asn Thr Arg Ile Met Ile His
      65             70            75            80

Gln Pro Val Gly Gly Ala Ser Gly Gln Ala Leu Asp Val Glu Val Gln
      85             90            95

Ala Lys Glu Ile Leu Thr Asn Lys Arg Asn Val Ile Arg Ile Val Ser
      100            105           110

Gly Phe Thr Gly Arg Thr Pro Glu Gln Val Glu Lys Asp Ile Asp Arg
      115            120           125

Asp Arg Tyr Met Gly Pro Leu Glu Ala Val Asp Tyr Gly Leu Ile Asp
      130            135           140

Gly Val Ile Asp Gly Asp Ser Ile Ile Pro Leu Glu Pro Val Pro Glu
      145            150           155           160

Arg Val Lys Pro Lys Tyr Asn Tyr Glu Glu Leu Tyr Lys Asp Pro Gln
      165            170           175

Lys Phe Leu Thr Pro Asp Val Pro Asp Asp Glu Ile Tyr
      180            185

```

<210> 49
 <211> 690
 <212> DNA
 <213> Oryza sativa

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<400> 49
cgctgccccg tcaccacgct ctgcatcggc caggccgcgt ccatgggctc cctcctgctc 60
gccgccggcg cgcgcgggga gcgccgggcg ctgcccaacg cgcggggtcat gattcaccag 120
ccatccggggg gcgcgcaggg ccaggccacc gacatcgcca tccaggccaa ggagattctc 180
aagctgcgcg accgcctcaa caagatctac cagaagcaca ccggccagga gatcgacaag 240

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atcgagcagt gcatggagcg cgacctcttc atggaccccg aggaggcgcg cgattggggg 300
ctcatcgacg aggtaattga gaaccgcccc gcgtccctga tacccgaggg cgccactggc 360
gttgacctgc cgcaccacag cgccgctggc gtcggcgga ggggcagaga tgtcgaggag 420
ccctccgcgg tgtgagctgt ggccgcaaag gtgaaacctt ttcgtgtccc atggccatgt 480
tgttgttggt attagatcca aggttcagtt cttatactac ataaacttaa cttgttatta 540
ttcaggttgc cacttggtat tcaggttgcc gatgtgttcg gtccttaca tgttgtcttg 600
attgcctgaa ttgagctact gctgatattt attgcaaadc taaggaaatt ttattccttc 660
catactgata aaaaaaaaaa aaaaaaaaaa

```

<210> 50
 <211> 144
 <212> PRT
 <213> *Oryza sativa*

```

<400> 50
Arg Cys Pro Val Thr Thr Leu Cys Ile Gly Gln Ala Ala Ser Met Gly
  1             5             10             15
Ser Leu Leu Leu Ala Ala Gly Ala Arg Gly Glu Arg Arg Ala Leu Pro
      20             25             30
Asn Ala Arg Val Met Ile His Gln Pro Ser Gly Gly Ala Gln Gly Gln
  35             40             45
Ala Thr Asp Ile Ala Ile Gln Ala Lys Glu Ile Leu Lys Leu Arg Asp
  50             55             60
Arg Leu Asn Lys Ile Tyr Gln Lys His Thr Gly Gln Glu Ile Asp Lys
  65             70             75             80
Ile Glu Gln Cys Met Glu Arg Asp Leu Phe Met Asp Pro Glu Glu Ala
      85             90             95
Arg Asp Trp Gly Leu Ile Asp Glu Val Ile Glu Asn Arg Pro Ala Ser
  100            105            110
Leu Ile Pro Glu Gly Ala Thr Gly Val Asp Leu Pro His His Ser Ala
  115            120            125
Ala Gly Val Gly Gly Arg Gly Arg Asp Val Glu Glu Pro Ser Ala Val
  130            135            140

```

<210> 51
 <211> 874
 <212> DNA
 <213> *Glycine max*

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<400> 51
gcacgagggg gcgtttccag agtggtataa gtcagctttt ccaatacagg ataatccgtt 60
gtggtggagc agttgatgac gatatggcaa acatcatagt tgctcagctc ctgtacctcg 120
acgctgttga tcctaacaag gatattgtca tgtatgtaaa ttctccagga gggtcgggta 180
cagctggaat ggctatatatt gatacaatga ggcataatccg acctgatgtg tctactgttt 240
gtgttggtat agcagctagt atgggagctt ttctgctgag cgcagggaca aaaggaaaga 300
gatacagctt gccaaattca aggataatga ttcatcaacc gcttggtggt gctcaaggag 360
ggcaaactga catagatatt caggctaatt aaatgctgca tcataaggca aatctgaatg 420
gatattctgc ctatcacact ggccaaagtt tagacaagat caaccaggat acagaccgtg 480
actttttcat gagtgcacaa gaagccaagg aatatggact catagatggt gtcattatga 540
atcctctcaa agctctccag ccattagagg ctgcagcaga aggtaaagac cgggctagtg 600
tttgaacatg agaatgttgc actttaattt ccaagggtata aaaaatcata gtgtagact 660
gtaagatggt tttggttgct ggtccaact taattttttt ttacggatgt tgataacctg 720
gcccatgtac caaaaatgag gcgaaattga tactatttat ttaattattca ctgcttcaga 780

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gtttatactg acagaagggt ctttaatgga acctgaatgt gattttaact tcaagcattc 840
 ttttgtgatg aactgaaaaa aaaaaaaaaa aaaa 874

<210> 52
 <211> 200
 <212> PRT
 <213> Glycine max

<400> 52
 Thr Arg Glu Arg Phe Gln Ser Val Ile Ser Gln Leu Phe Gln Tyr Arg
 1 5 10 15
 Ile Ile Arg Cys Gly Gly Ala Val Asp Asp Asp Met Ala Asn Ile Ile
 20 25 30
 Val Ala Gln Leu Leu Tyr Leu Asp Ala Val Asp Pro Asn Lys Asp Ile
 35 40 45
 Val Met Tyr Val Asn Ser Pro Gly Gly Ser Val Thr Ala Gly Met Ala
 50 55 60
 Ile Phe Asp Thr Met Arg His Ile Arg Pro Asp Val Ser Thr Val Cys
 65 70 75 80
 Val Gly Leu Ala Ala Ser Met Gly Ala Phe Leu Leu Ser Ala Gly Thr
 85 90 95
 Lys Gly Lys Arg Tyr Ser Leu Pro Asn Ser Arg Ile Met Ile His Gln
 100 105 110
 Pro Leu Gly Gly Ala Gln Gly Gly Gln Thr Asp Ile Asp Ile Gln Ala
 115 120 125
 Asn Glu Met Leu His His Lys Ala Asn Leu Asn Gly Tyr Leu Ala Tyr
 130 135 140
 His Thr Gly Gln Ser Leu Asp Lys Ile Asn Gln Asp Thr Asp Arg Asp
 145 150 155 160
 Phe Phe Met Ser Ala Lys Glu Ala Lys Glu Tyr Gly Leu Ile Asp Gly
 165 170 175
 Val Ile Met Asn Pro Leu Lys Ala Leu Gln Pro Leu Glu Ala Ala Ala
 180 185 190
 Glu Gly Lys Asp Arg Ala Ser Val
 195 200

<210> 53
 <211> 755
 <212> DNA
 <213> Triticum aestivum

<400> 53
 gcacgagggc ggtcctgtgg aggatgatat ggccaacgtc attgttgcg c agctgctata 60
 cctggacgcc gttgatccta acaaggatat cattatgtat gtgaactctc caggaggatc 120
 agtgacagct gggatggcca tatttgatac aatgaagcat atcaggcctg atgtttcgac 180
 agtttgtatc ggacttgctg caagtatggg tgcttttcta cttagcggtg ggacgaaagg 240
 gaagaggtac agcttaccta actcaagaat aatgatccat cagcctcttg gaggagccca 300
 aggacaagag accgaccttg agatccaggc caatgagatg ctgcaccaca aggccaactt 360
 gaacggatac ctagcatacc aactggggca gccctggat aagatcaatg tagatactga 420

ccgtgacttc ttcattgagcg cgaaggaggc aaaggagtat ggccttattg atggagtaat 480
 cgtgaaccct cttaaagcgc tgcaaccact tccagcttcc agttagccat gccgtgcaca 540
 aaatctatgc cgctccaagc atttttggtg tgatcttctg gagttgtgtt tgtaccacgc 600
 tgttttcggt agtctggcta gatgcttttg taatttcacg ttctgaagct ttcacagggt 660
 gtacggaaca gatgcactac tagaatgttc atcgtttgcg gtaagatgtt tgcacgtgag 720
 tcgacgttgt ttttggttaa aaaaaaaaaa aaaaa 755

<210> 54
 <211> 174
 <212> PRT
 <213> Triticum aestivum

<400> 54
 His Glu Gly Gly Pro Val Glu Asp Asp Met Ala Asn Val Ile Val Ala
 1 5 10 15
 Gln Leu Leu Tyr Leu Asp Ala Val Asp Pro Asn Lys Asp Ile Ile Met
 20 25 30
 Tyr Val Asn Ser Pro Gly Gly Ser Val Thr Ala Gly Met Ala Ile Phe
 35 40 45
 Asp Thr Met Lys His Ile Arg Pro Asp Val Ser Thr Val Cys Ile Gly
 50 55 60
 Leu Ala Ala Ser Met Gly Ala Phe Leu Leu Ser Gly Gly Thr Lys Gly
 65 70 75 80
 Lys Arg Tyr Ser Leu Pro Asn Ser Arg Ile Met Ile His Gln Pro Leu
 85 90 95
 Gly Gly Ala Gln Gly Gln Glu Thr Asp Leu Glu Ile Gln Ala Asn Glu
 100 105 110
 Met Leu His His Lys Ala Asn Leu Asn Gly Tyr Leu Ala Tyr His Thr
 115 120 125
 Gly Gln Pro Leu Asp Lys Ile Asn Val Asp Thr Asp Arg Asp Phe Phe
 130 135 140
 Met Ser Ala Lys Glu Ala Lys Glu Tyr Gly Leu Ile Asp Gly Val Ile
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 Val Asn Pro Leu Lys Ala Leu Gln Pro Leu Pro Ala Ser Ser
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 ctgatggcct cagtgccgtt gaccgcctc accacggtgg gggcgccggc gccaacggcc 480
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<212> PRT
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Cys Ile Gly Gln Ala Ala Ser Met Gly Ser Leu Leu Leu Ala Ala Gly
      35             40             45

Ala Arg Gly Glu Arg Arg Ala Leu Pro Asn Ala Arg Val Met Ile His
      50             55             60

Gln Pro Ser Gly Gly Ala Gln Gly Gln Ala Thr Asp Ile Ala Ile Gln
      65             70             75             80

Ala Lys Glu Ile Leu Lys Leu Arg Asp Arg Leu Asn Lys Ile Tyr Ala
      85             90             95

Lys His Thr Gly Gln Asn Ile Asp Lys Ile Glu Gln Cys Met Glu Arg
      100            105            110

Asp Leu Phe Met Asp Pro Glu Glu Ala Arg Glu Trp Gly Leu Ile Asp
      115            120            125

Glu Val Ile Glu Asn Arg Pro Ala Ser Leu Met Pro Asp Gly Leu Ser
      130            135            140

Ala Val Asp Pro Pro His His Gly Gly Gly Ala Gly Ala Asn Gly Arg
      145            150            155            160

Gly Arg Asp Arg Asp Met Glu Glu Pro Ser Ala Val
      165            170

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